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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,993	11/23/2004	Niklas Philipson	3682-46	2027
23117	7590	10/20/2006	EXAMINER	
NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203			SWENSON, BRIAN L	
			ART UNIT	PAPER NUMBER
			3618	

DATE MAILED: 10/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/501,993	<b>Applicant(s)</b> PHILIPSON, NIKLAS	
	<b>Examiner</b> Brian Swenson	<b>Art Unit</b> 3618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 23 November 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-11 is/are rejected.
- 7) ☒ Claim(s) 4, 5 and 12-16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/23/04, 7/21/04</u> .                                       | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-3 and 6-11 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,432,416 issued to Tae-Sig.

Tae-Sig teaches in Figures 1-9d and respective portions of the specification of a drive unit comprising a rolling means (wheel 11) intended to be in frictional engagement with a surface over which said drive unit is intended to move, a first driving means (servomotor 16) and a second driving means (servomotor 15), co-operatively operable to provide both propulsion and steering of said drive unit while eliminating slippage between said rolling means and said surface, wherein said first driving means is arranged on a rotatable support means (14; portion 14c is a round plate) rotatable (see at least Col. 2, lines 58+) about a center axis and is operable to rotate said rolling means about a rolling axis (rotates about shaft 11a shown in Figure 4), wherein said second driving means (15) is operable to rotate said support means about said center axis (see Figure 4, where second driving means rotates ring gear 19), allowing said support means and said rolling means to rotate with respect to said drive unit.

Tae-Sig discloses the claimed invention except for showing the rolling means is displaced a predetermined distance from said center axis. It would have been obvious

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to one having ordinary skill in the art at the time of invention to offset the rolling means from the central axis by placing the first driving means' center of gravity coincidental with the central axis. One would be motivated to place the first driving means along the central axis to allow the second driving means to smoothly rotate the platform by placing the heaviest component at the center of rotation.

In regards to claim 2, Tae-Sig shows in Figure 4 the rolling axis (11a) is perpendicular to a center, vertical axis.

In regards to claims 3 and 6, the teeth (19a) are taken to be sprocket means driven by a toothed wheel (153) driven by the second drive means (15).

In regards to claim 7, Tae-Sig shows a gear-train (167, 167a, and 118) connected to the first drive means, but Tae-Sig does not teach of a planetary gear-box connected with the first drive means. Planetary gear-boxes are well-known in the mechanical art. It would have been obvious to one having ordinary skill in the art at the time of invention to provide a planetary gear-box in place of the gear-train taught by Tae-Sig. One would be motivated to replace the gear-train with a gear-box to provide a more compact gearing system.

In regard to claim 8, Tae-Sig teaches of ball bearings (18a; see also Figure 4).

***Allowable Subject Matter***

2. Claims 4-5 and 12-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The primary reason for the indication of allowable subject matter in this case is the inclusion of a chain and sprocket driven by the second drive means to rotate the rotatable support means and first drive means relative to second drive means; a rotation limiter and a sensor means to detect the position of the rotatable support means; a plurality of rolling means located on a chassis, where at least two rolling means are drive units, in combination with the other elements recited, not found in the prior art of record.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 4,533,098 issued to Falamak teaches of an omnidirectional controlled platform.

U.S. Patent No. 4,733,737 issued to Falamak teaches of a platform with two drive motors.

U.S. Patent No. 4,221,273 issued to Finden teaches of a steerable and driveable platform that includes two drive motors that are able to pivot.

U.S. Patent No. 6,948,576 issued to Angeles teaches of a driving unit with two motors.

U.S. Patent No. 4,529,052 issued to Imai et al. teach of device, in Figures 11 and 12, with drive motors (41,42, 43, 44) and motors (16,17) for rotating the drive motors.

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U.S. Patent No. 5,823,884 issued to Ager teaches of a teach of device, in Figure 2, with drive motor (26) and motor (36) for rotating the drive motor.

U.S. Patent No. 4,463,821 issued to Falamak teaches of a drivable and steerable platform.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Swenson whose telephone number is (571) 272-6699. The examiner can normally be reached on M-F 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Ellis can be reached on (571) 272-6914. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Brian Swenson  
Examiner  
Art Unit 3618

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bls



CHIEF OF BUREAU 10/18/06  
SUPERVISORY PATENT EXAMINER  
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